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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Rainer Hald

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EXAMINER

SAHA, BIJAY S

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

12/18/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto.phil@dlapiper.com

Office Action Summary	Application No. 10/583,178	Applicant(s) HALD ET AL.	
	Examiner BIJAY S. SAHA	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-17 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-17 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed on October 28, 2009 has been entered.

Status of Application

The amended and original claims 10-17 and 19 are pending and presented for the examination. The original claims 1-9 and 18 have been cancelled.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 10-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al US 2001/0038938 (hereinafter US'938) in view of Hirai et al US 2003/0194608 (hereinafter US'608) and Nakatsugawa US 4,483,906 (US'906).

Regarding claims 10, US'938 teaches an electrochemical element (fig 8 and Fig 9 page), lithium secondary battery (para 0039 page 3), and a housing envelope (para 0027), a flexible envelope (para 0034), envelope formed by laminate film (para 0154), connected to positive and negative electrodes (Fig 1B and 2B), connected to safety electronics (Fig 5, part # 106, 105), conducted exteriorly (Fig 6 part # 106).

Although US'938 teaches terminal made of "...foils of various metals ...such as copper..." (para 0085), US'938 does not explicitly teach coating the copper foils by nickel.

US'608 teaches copper member for battery (Title), terminal made of "...copper (Cu) including nickel plated copper..." (para 0033).

US'906 teaches the copper foil production process (col 5 line 33), electroplating of 0.2 micron nickel coating on copper foil (Col 5 line 46-54, Example 1).

At the time of invention it would have been obvious to a person of ordinary skill to make an electrode element (US'938's teaching) utilizing the nickel plated copper electrodes (US'608 teaching). The suggestion or motivation for doing so would have been to "[e]xcellent in corrosion resistance" of copper by nickel plating. (US'608) and a "[p]rocess ...suitable for commercial production" (US'906).

Regarding the nickel layer thickness range, examiner considers: In MPEP 2144.05 [R-5] Obviousness of Ranges, "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists".

Regarding claims 11 and 13, US'938 teaches protective component is inserted in the link between element and safety electronics (Examples B1 and B2, para 0183).

Regarding claims 12, US'938 teaches protective element PTC thermister (Para 0183).

Regarding claims 14, US'938 teaches a thermal fuse (para 0183).

Regarding claims 15, US'608 teaches nickel coating of copper electrode (para 0033 and claim 1).

Regarding claims 16, US'938 teaches nickel-coated copper diverters are 2 mm to 15 mm wide (Figures 2A, 2B, 4,5 and 6, component # 113, 14, 106). Examiner considers these dimensions based upon the dimensions of the 5 mm wide strip (para 0157) and thermister of 0.5 mm thick (para 0176).

Regarding claims 17, US'938 teaches nickel-coated copper diverters are 15 μ m to 150 μ m thick (para 0079).

Regarding claims 17, examiner considers: In MPEP 2144.05 [R-5] Obviousness of Ranges, "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists.

Regarding claims 19, US'938 teaches the housing comprises a compound aluminum film (para 0154).

Summary

The claims 10-17 and 19 are rejected.

Response to Arguments

Applicants' arguments filed October 28, 2009 have been fully considered but they are not persuasive.

Applicants have amended the independent claim 1 as "...consists of nickel-coated copper foil with a nickel layer thickness of 10 nm to 3 micron". Examiner has rejected this limitation with the prior art US'906 that teaches the electroplating process in detail. Examiner considers that the related arguments are now moot.

In view of the amended claim 1, examiner has cited a new prior art and rejected the claim 1 based upon the newly cited prior art. Most of the applicants' **arguments are now moot.**

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Examiner points out that US'938 teaches the application of copper foil. US'608 teaches a nickel plated copper foil and US'906 teaches the thickness of the nickel layer on copper foil; hence the prior art meets the claim limitation of "consists of nickel coated copper foil with nickel thickness of 10 nm to 3 microns".

Applicants argue about Hirai et al (US'608) and state that ".....Claim 1 puts that disclosure into further context which refers to a copper member for a battery and has a composite covering layer comprising an aminated phenol polymer, a trivalent chromium compound and a phosphorus compound formed on the surface of a foil-shaped, sheet-shaped or plate-shaped copper member. In other words, Claim 1 provides the further context that the raw metallic plate is actually covered with additional materials..." (page 5).

Examiner further points out that the basic teaching of US'608 is " The terminal of the lithium ion battery has a thickness from 8 micron to 5 mm, width 4 to 20 mm and is made of aluminum (Al), **copper (Cu) (including nickel plated Cu)**..." (emphasis added) (para 0033). Examiner further points out that the basic teaching "**nickel plated Cu**" could be utilized in multiple attributes including in US'938 in which the terminal consists of a foil. The teaching of US'608 is relevant regardless of whether the terminal consists of a foil or also comprises other layers such as a covering layer.

Applicants argue about “..applicants have discovered several things”. Examiner points out that, in the present application, the independent claim 1 is drawn to “a voltaic element ...consists of nickel-coated copper foil with a nickel layer thickness of 10 nm to 3 micron”. The claim is **not drawn** to “..**discovered several things**...”. (emphasis added).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BIJAY S. SAHA whose telephone number is (571) 270-5781. The examiner can normally be reached on Monday- Friday 8:00 a.m. EST - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Curtis Mayes can be reached on (571) 272 1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BIJAY S SAHA/
Examiner, Art Unit 1793

BSS

December 6, 2009

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1793